

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. - 5. (canceled).

6. (currently amended): A photomask blank comprising:

a substrate; and

an opaque layer provided on a top surface of the substrate thereon,

the photomask blank used for preparing a photomask for display device manufacturing by
patterning the opaque layer, wherein the substrate comprises:

a first surface and a second surface, said first surface opposite to said second surface, an
edge surface, and chamfered surfaces, said chamfered surfaces being formed between the first
surface and the edge surface, and between the second surface and the edge surface, respectively,

wherein said substrate has a square shape having each side length of at least 300 mm and
a weight of 1 to 1.5 Kg, and

said edge surface and the chamfered surfaces have roughened surfaces having a surface
roughness (Ra) of 0.03 to 0.3 micrometer.

the top surface and a back surface opposite from the top surface, the top and back
surfaces being square in shape;

an end surface formed along the thickness of the substrate; and

~~a chamfered surface formed on a first perimeter edge region where the end surface and the top surface meet and a second perimeter edge region where the end surface and the back surface meet,~~

~~wherein a length of each of the perimeter edge regions of the substrate is 300 mm or more and the end surface and the chamfered surface each has a roughened surface having a surface roughness (Ra) ranging from 0.03 μm to 0.3 μm .~~

7. (currently amended): A photomask comprising:

a substrate; and

~~an opaque layer pattern provided on a top surface of the substrate thereon,~~

~~wherein the which~~ substrate comprises:

a first surface and a second surface, said first surface opposite to said second surface, an edge surface and chamfered surfaces, said chamfered surfaces being formed between the first surface and the edge surface, and between the second surface and the edge surface, respectively,
wherein said substrate has a square shape having each side length of at least 300 mm and a weight of 1 to 15Kg, and

said edge surface and said chamfered surfaces have roughened surfaces having a surface roughness (Ra) of 0.03 to 0.3 micrometer.

~~the top surface and a back surface opposite to the top surface, the top and back surfaces being square in shape;~~

~~an end surface formed along the thickness of the substrate; and~~

~~a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another perimeter edge region where the end surface and the back surface meet,~~

~~wherein a length of each of the chamfered surfaces of the substrate is 300 mm or more and the end surface and the chamfered surface each has a roughened surface having a surface roughness (Ra) ranging from 0.03 μm to 0.3 μm .~~

8. (currently amended): A ~~substrate for a photomask blank~~ as set forth in Claim ~~4~~ 6, wherein the roughened surface has a surface roughness (Ra) ranging from 0.15 μm to 0.20 μm .

9. (currently amended): A ~~substrate for a photomask blank~~ as set forth in Claim ~~3~~ 6, wherein ~~the~~ an abrasive tool for polishing the chamfered ~~surface~~ surfaces has a particle size ranging from #800 to #1,000.

10. (currently amended): A ~~substrate for a photomask blank~~ as set forth in Claim ~~3~~ 6, wherein the chamfered ~~surface~~ ~~surfaces~~ are polished with ~~the~~ an abrasive tool and an abrasive compound.

11. (currently amended): A photomask blank comprising:
a substrate; and
an opaque layer provided on a top surface of the substrate,
wherein the substrate comprises:

a first surface and a second surface, said first surface opposite to said second surface, an edge surface and chamfered surfaces, said chamfered surfaces being formed between the first surface and the edge surface, and between the second surface and the edge surface, respectively,
wherein said substrate has a square shape having each side length of at least 300 mm and a weight of 1 to 15Kg.

the top surface and a back surface opposite to the top surface, the top and back surfaces being square in shape;

an end surface formed along the thickness of the substrate; and
a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another perimeter edge region where the end surface and the back surface meet;

wherein a length of each of the chamfered surfaces of the substrate is 300 mm and each of the chamfered surfaces is a roughened surface polished with an abrasive tool having a particle size ranging from #700 to #2,400.

12. (currently amended): A photomask blank comprising:
a substrate; and
an opaque layer provided on a top surface of the substrate thereon,
the photomask blank used for preparing a photomask for display device manufacturing by
patterning the opaque layer,
wherein the substrate comprises:

a first surface and a second surface, said first surface opposite to said second surface, an edge surface and chamfered surfaces, said chamfered surfaces being formed between the first surface and the edge surface, and between the second surface and the edge surface, respectively,
wherein said substrate has a square shape having each side length of at least 300 mm and a weight of 1 to 15 Kg, and

the top surface and a back surface opposite to the top surface, the top and back surfaces being square in shape;

an end surface formed along the thickness of the substrate; and
a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another perimeter edge region where the end surface and the back surface meet,

wherein a length of each of the chamfered surfaces of the substrate is 300 mm or more and each of the chamfered surfaces have a smaller surface roughness than the edge end surface.

13. (currently amended): A photomask for display device manufacturing comprising:
a substrate; and
an opaque layer provided on a top surface of the substrate thereon,
wherein the substrate comprises:
a first surface and a second surface, the first surface opposite to the second surface, an edge surface and chamfered surfaces, said chamfered surfaces being formed between the first surface and the edge surface, and between the second surface and the edge surface, respectively,

wherein said substrate has a square shape having each side length of at least 300 mm and a weight of 1 to 15 Kg,

~~the top surface and a back surface, the top and back surfaces being square in shape;~~

~~an end surface formed along the thickness of the substrate; and a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another perimeter edge region where the end surface and the back surface meet,~~

~~wherein a length of each of the chamfered surfaces of the substrate is 300 mm or more and each of the chamfered surfaces is has a roughened surface polished with an abrasive tool having a particle size ranging from #700 to #2,400.~~

14. (currently amended): A photomask for display device manufacturing comprising:
a substrate; and

an opaque layer provided on a top surface of the substratethercon,

wherein the substrate comprises:

a first surface and a second surface, the first surface opposite to the second surface, an edge surface and chamfered surfaces, said chamfered surfaces being formed between the first surface and the edge surface, and between the second surface and the edge surface, respectively,

wherein said substrate has a square shape having each side length of at least 300 mm and a weight of 1 to 15 Kg,

~~the top surface and a back surface, the top and back surfaces being square in shape;~~

~~an end surface formed along the thickness of the substrate; and~~

~~a chamfered surface formed on a perimeter edge region where the end surface and the top surface meet and another perimeter edge region where the end surface and the back surface meet,~~

~~wherein a length of each of the chamfered surfaces of the substrate is 300 mm or more and each of the chamfered surfaces has a smaller surface roughness than the end edge surface.~~

15. (new): A photomask blank as set forth in claim 6, wherein the edge surface has a surface roughness (Ra) of 0.05 μm or more.

16. (new): A photomask blank for photomask as set forth in claim 6, wherein the edge surface and the chamfered surfaces each have a roughened surface having a surface roughness (Ra) ranging from 0.05 μm to 0.3 μm .

17. (new): A photomask blank as set forth in claim 6, wherein the roughened surface has a surface roughness (Ra) ranging from 0.15 μm to 0.20 μm .

18. (new): A photomask as set forth in claim 7, wherein an abrasive tool for polishing the chamfered surfaces has a particle size ranging from #800 to #1,000.

19. (new): A photomask as set forth in claim 7, wherein the chamfered surfaces are polished with an abrasive tool and an abrasive compound.

20. (new): A photomask as set forth in claim 7, wherein the edge surface has a surface roughness (Ra) of 0.05 μm or more.

21. (new): A photomask as set forth in claim 7, wherein the edge surface and the chamfered surfaces each have a roughened surface having a surface roughness (Ra) ranging from 0.05 μm to 0.3 μm .